

What is claimed is:

1           1.     A printed circuit board comprising:  
2           a signal layer comprising traces to communicate signals not associated with regulated  
3 supply voltages; and  
4           a supply voltage plane embedded in the signal layer to supply power to multiple  
5 supply voltage pins of a component mounted to the printed circuit board.

1           2.     The printed circuit of claim 1, further comprising:  
2           a supply voltage plane layer separate from the signal layer.

1           3.     The printed circuit board of claim 1, wherein the supply voltage plane has an  
2 outer boundary established by the supply voltage pins of the component.

1           4.     The printed circuit board of claim 1, wherein the supply voltage plane lies  
2 substantially within a region located directly below the component, the component being  
3 mounted on top of the signal layer.

1           5.     The printed circuit board of claim 1, wherein the supply voltage plane has an  
2 outer boundary that generally follows a projection of a main body of the component onto the  
3 signal layer.

1           6.     The printed circuit board of claim 1, further comprising:  
2           a supply voltage plane layer different from the signal layer, the supply voltage plane  
3 layer comprising an embedded ground plane to provide ground connections for the signal  
4 layer.

1           7.     The printed circuit board of claim 6, wherein the ground connections are  
2 associated with electrical devices connected to the component.

1 8. The printed circuit board of claim 6, wherein the ground plane has an outer  
2 boundary established by the ground connections.

1 9. The printed circuit board of claim 6, wherein the ground plane lies  
2 substantially within a region located directly below the component, the component being  
3 mounted on top of the signal layer.

1 10. The printed circuit board of claim 6, wherein the ground plane is significantly  
2 larger than the supply voltage plane.

1 11. The printed circuit board of claim 6, wherein the ground plane has an outer  
2 boundary that circumscribes a projection of the supply voltage plane onto the signal layer.

1 12. The printed circuit board of claim 6, further comprising:  
2 a core layer,  
3 wherein the signal layer and the supply voltage plane layer are located on the same  
4 side of the core layer.

1 13. The printed circuit board of claim 6, wherein the ground plane is arranged to  
2 reduce an inductance.

1 14. The printed circuit board of claim 1, wherein the supply voltage plane is  
2 arranged to reduce an inductance.

1 15. A printed circuit board comprising:  
2 a supply voltage plane layer to communicate a supply voltage; and  
3 a ground plane embedded in the supply voltage plane layer to provide ground  
4 connections to multiple pins of a component mounted to the printed circuit board.

1 16. The printed circuit of claim 15, further comprising:  
2 a ground plane layer separate from the supply voltage plane layer.

1 17. The printed circuit board of claim 15, wherein the ground plane lies  
2 substantially within a region located directly below the component, the component being  
3 mounted on top of the signal layer.

1 18. The printed circuit board of claim 15, wherein the ground connections are  
2 associated with electrical devices connected to the component.

1 19. The printed circuit board of claim 15, wherein the ground plane has an outer  
2 boundary established by the ground connections.

1 20. A method comprising:  
2 for each high frequency component to be mounted on a printed circuit board,  
3 embedding an associated supply voltage plane in a signal layer of the printed board to provide  
4 power to the component, the signal layer being used to communicate high frequency signals  
5 associated with the high frequency component or components.

1 21. The method of claim 20, further comprising:  
2 coupling the supply voltage plane or planes embedded in the signal layer to a supply  
3 voltage plane layer separate from the signal layer.

1 22. The method of claim 21, wherein the coupling comprises:  
2 coupling an inductive element between at least one of the supply voltage plane or  
3 planes embedded in the signal layer and the supply voltage plane layer.

1 23. The method of claim 20, further comprising:  
2 locating each supply voltage plane embedded in the signal layer underneath the  
3 associated component, the component or components being mounted on top of the signal  
4 layer.

1 24. The method of claim 20, further comprising:  
2 for each supply voltage plane embedded in the signal layer, embedding an associated

3 ground plane in a supply voltage plane layer of the printed circuit board to provide ground  
4 connections for the component associated with said supply voltage plane embedded in the  
5 signal layer.

1 25. The method of claim 24, further comprising:  
2 providing a core to support the signal layer and the supply voltage plane layer; and  
3 locating the signal layer and the supply voltage plane layer on the same side of the  
4 core.

1 26. The method of claim 25, further comprising:  
2 providing a ground plane layer on the opposite side of the core from said same side of  
3 the core; and  
4 connecting the ground plane or planes embedded in the supply voltage plane layer to  
5 the ground plane layer.

1 27. A method comprising:  
2 for each high frequency component to be mounted on a printed circuit board,  
3 embedding an associated ground plane in a supply voltage plane layer of the printed circuit  
4 board to provide ground connections for the component, the supply voltage plane layer being  
5 used to communicate a supply voltage to the high frequency component or components.

1 28. The method of claim 27, further comprising:  
2 coupling the ground plane or planes embedded in the supply voltage plane layer to a  
3 ground plane layer separate from the supply voltage plane layer.

1 29. The method of claim 27, further comprising:  
2 locating each ground plane embedded in the supply voltage plane layer underneath the  
3 associated component, the component or components being mounted above the supply  
4 voltage plane layer.